L 10237-63
ACCESSION NR: AP3000036

5

27.6°, which is of decided interest in the theory of Regge poles. The elastic scattering cross section is 9.8 plus or minus 0.9 millibarns. The experimental results are analyzed on the basis of a quasi-classical model. "In conclusion we wish to thank the directors of the High Energy Laboratory of the Joint Institute of Nuclear Research for the irradiation and chemical processing of the emulsion stacks. We also thank M. G. Shafranova, Ye. N. Tsyganov, B. A. Shakhbazyan, and I. N. Silin for participating in discussions of the results..." Orig. art. has: 1 figure, 3 formulas, 1 table.

ASSOCIATION: Physics Institute, Bulgarian Academy of Sciences

SUBMITTED: 01Dec62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: PH NR REF SOV: 005 OTHER: 007

Card 2/2

DALKHAZHAV, N.; ZLATEVA, A.Y.; KORBEL, Z.F.; MARKOV, P.K.; TODOROV, T.S.; TUVDENDORZH, D.; CHERNEV, Kh.M.; SHAFRANOVA, M.G.

Elastic scattering of 4Gev./c mesons by protons. Zhur. eksp. i teor. fiz. 47 no.1:12-15 Jl '64. (MIRA 17:9)

1. Ob"yedinennyy institut yadernykh issledovaniy. 2. Sotrudniki Instituta fiziki i khimii Mongol'skoy Akademii nauk, Ulan-Bator (for Dalkhazhav, Tuvdendorzh). 3. Sotrudniki Fizicheskogo instituta i atomnoy nauchno-issledovatel'skoy laboratorii Bolgarskoy Akademii nauk, Sofiya. (for Zlateva, Markov, Todorov, Chernev).

CHERNEV, M.; STOIANOV, S.; STAMENOV, M.

Bulgarian constructions abroad; the Mekharde Dam. p. 25

STROITELSTVO. (Ministerstvo na stroezhite) Sofiia, Bulgaria, Vol. 6, no. 9, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 12, December 1959
Uncl.

CHERNEV, R.

Portable amateur magnetic recorder. p. 52.
(RADIO I TELEVIZIIA, Vol. 6, no. 4, 1957, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

CHERNEV, R.

"Portable Amateur Magnetic Recorder."

p. 51 (Radio I Televiziia, Vol. 7, No. 6, 1958, Sofiia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 11, Nov. 1958

SHELUDKO, A.; CHERNEV, R.

Abating the surface waves of the solutions of surface-active substances. Izv Inst fiz khim 4:147-154 '64.

1. Institute of Physical Chemistry of the Bulgarian Academy of Sciences.

CHERNEV, St.

Recovering of mounting parts. Radio i televiziia 11 no.8:25l '62.

CHERNEV, S. P.

CHERNEV, S. P.: "A system for increasing the pedagogical skills of teachers in the school and in the field". Moscow, 1955. Moscow State Pedagogical Inst imeni V. I. Lenin. (Dissertations for the Degree of Candidate of Pedagogical Sciences.)

SO: Knizhnaya Letopis' No. 50. 10 December 1955. Moscow.

ACCESSION NR: AT4019293 S/0000/63/003/001/0090/0099

AUTHOR: Florinskaya, V. A.; Podushko, Yo. V.; Gonek, T. N.; Cherneva, E. F.

TITLE: Infrared spectra of glassy and crystallized silicates of the system lithium oxide-aluminum oxide-silicon dioxide ± TiO_2 and their relationship to the structure

SOURCE: Simpozium po stekloobraznomu sostoyaniyu. Leningrad, 1962. Stekloobraznoye sostoyaniye, vy*p. 1: Katalizirovannaya kristallizatsiya stekla (Vitreous state, no. 1: Catalyzing crystallization of glass). Trudy* simpoziuma, v. 3, no. 1. Moscow, Izd-vo AN SSSR, 1963, 90-99, insert between p. 90 and 91.

TOPIC TAGS: glass, silicate, crystallization, glass structure, infrared spectrum, infrared spectroscopy, lithium oxide, aluminum oxide, titanium dioxide, spodumene

ABSTRACT: Infrared spectra of glass 13 with TiO_2 were determined over a range of 7-14 microns, along with the spectra of several natural minerals. The effects of variations in thermal treatment on the spectral properties and structure were investigated. The results show that transparent crystalline glass containing titanium with a composition close to spodumene has essentially the same crystal structure as found in pure crystallized spodumene glass. These crystals are formed below 800C. Loss of transparency in crystalline glass of the same or very similar composition is caused by the different

Card 1/2

ACCESSION NR: AT4019293

appearance of crystalline phases and by the larger dimensions of the crystals which are formed. The temperature conditions during the crystallization of glass and the addition of oxides can affect the composition of the crystalline phases. Glass crystallization is preceded by a period of latent structurization. Orig. art. has: 8 figures.

ASSOCIATION: None

SUBMITTED: 17May63	DATE ACQ: 21Nov63	ENCL: 00
SUB CODE: MT, OP	NO REF SOV: 000	OTHER: 000

2/2

Card

CHERNEVA, E.F.; FLORINSKAYA, V.A.; PODUSHKO, Ye.V.

Infrared reflection spectra of the crystallization products of glasses of the Li_2O- SiO_2 system in the 7,7 - 14 μ region. Zhur. fiz. khim. 37 no.11:2556-2560 N'63. (MIRA 17:2)

ACCESSION NR:

AUTHOR: Cherneva, E. F.; Florinskaya V. A.

TITLE: Infrared spectra of certain

SOURCE: Zhurnal strukturnoy khim.

TOPIC TAGS: Li_2O-SiO_2 system, crystalline

Card

ACCESSION NR AP4047636

existed in the original glass precipit

ASSOCIATION: Gosudarstvennyy*y

SUB CODE: 55, CF NO RE

Card 2/2

FLORINSKAYA, V.A.; CHERNEVA, E.F.; KOROL'KOVA, I.N.; SKAVRONSKAYA, I.F.

Crystallization of sodium silicate glasses at high temperatures. Zhur. fiz. khim. 38 no.2:472-477 F '64.
(MIRA 17:8)

L 12125-66 EWP(e)/EWT(m)/EWP(b) GS/WH

ACC NR: AT6000492 SOURCE CODE: UR/0000/65/000/000/0200/0207

AUTHOR: Cherneva, E. F.; Florinskaya, V. A.

ORG: None

TITLE: Infrared spectra of lithia-silica glasses and their relation to the structure

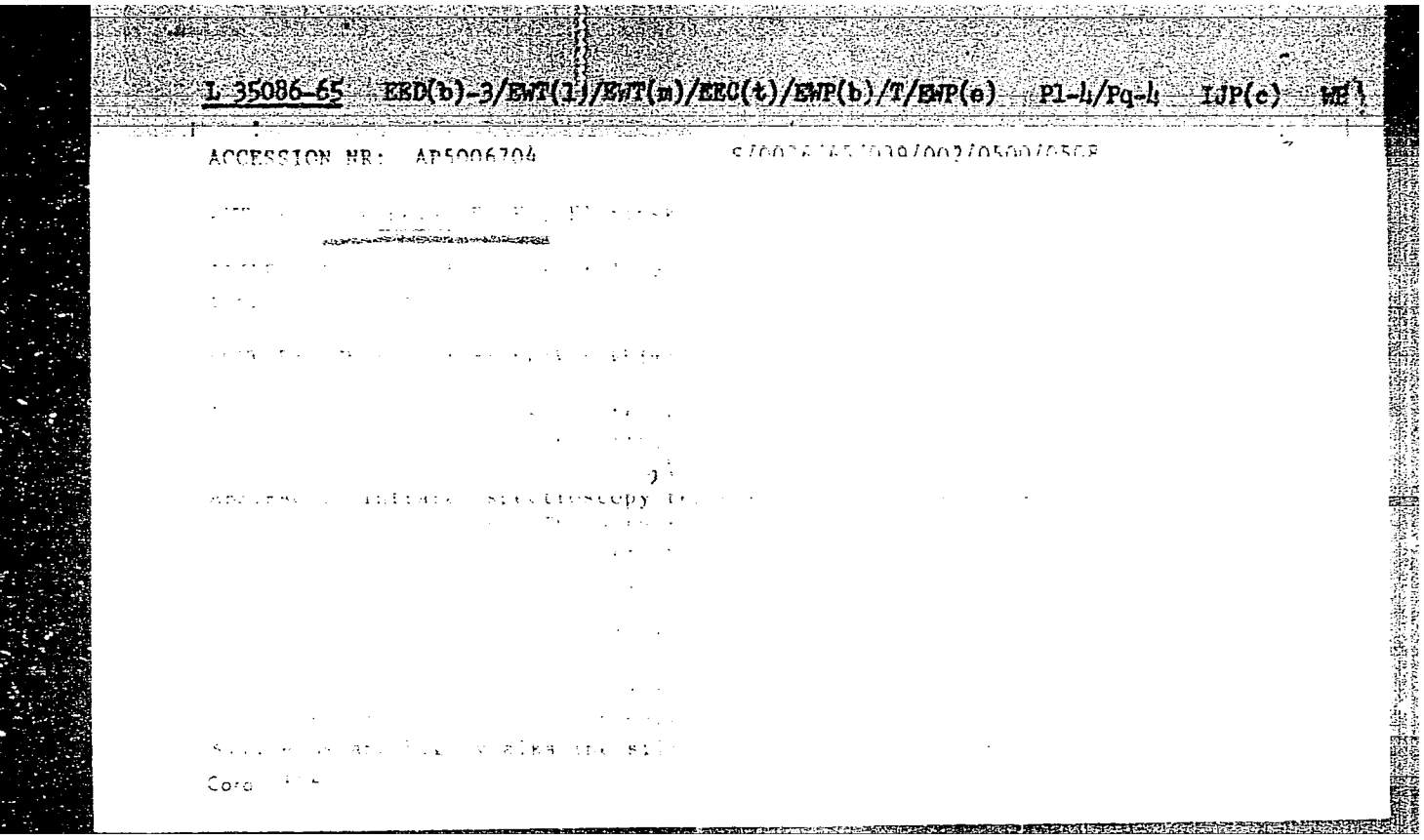
SOURCE: Vsesoyuznoye soveshchaniye po stekloobraznomu sostoyaniyu. 4th, Leningrad, 1964. Stekloobraznoye sostoyaniye (Vitreous state); trudy soveshchaniya. Leningrad, Izd-vo Nauka, 1965, 200-207

TOPIC TAGS: lithium glass, crystallization, silicate glass

ABSTRACT: The structure of glasses containing 20 to 45 mole % Li_2O was investigated by means of transmission and reflection IR spectra. To demonstrate the inhomogeneity of the structure of lithia glasses, the authors consider the following transition process: charge → melt → glass → crystal, using lithium disilica glass as an example. Samples were withdrawn at various stages of this process and were subjected to infrared analysis, from which the reactions and transformations taking place, particularly those associated with crystallization, were deduced. It is concluded that high-silica and high-alkali silicates, the nature of which thus far remains unknown, participate in the formation of the structure of lithium-silica glasses. Orig. art. has: 5 figures.

SUB CODE: 07, 11 / SUBM DATE: 22May65 / ORIG REF: 001 / OTH REF: 001

Card 1/1 HW



L 35086-65 EEO(b)-3/EWT(1)/EWT(m)/EEC(t)/EWP(b)/T/EWP(e) P1-4/Pq-4 IJP(c) WE

ACCESSION NR: AP5006704

L 35086-65

Card 2/2

CHERNEVA, O. V.

Cherneva, O. V.

"The Cynareae of Uzbekistan." Published by the Central Asia State U. Min Higer Education USSR. Central Asia State U. imeni V. I. Lenin. Tashkent, 1956. (Dissertation for the Degree of Candidate in Biological Sciences).

So: Knizhnaya letopis'
No. 25, 1956. Moscow

BONDARENKO, O.N.; BUTKOV, A.Ya.; VVEDENSKIY, A.I.; DROBOV, V.P. [deceased]; ZAKIROV, K.Z.; KOVALEVSKAYA, S.S.; LINCHEVSKIY, I.A.; NABIYEV, M.M.; PAZIY, V.K.; ROZHKOVA, O.I.; CHERNEVA, O.V.; KOROVIN, Ye.P., akad., red.; MUZAFAROV, A.M., akad., red.; EYDEL'MAN, A.S., red.; RAKHMANOVA, M.D., red.; GOR'KOVAYA, Z.P., tekhn. red.

[Flora of Uzbekistan] Flora Uzbekistana. Tashkent, Izd-vo Akad. nauk Uzbekiskoi SSR. Vol.5. 1961. 666 p. (MIRA 15:3)
(Uzbekistan--Dicotyledons)

NIKITINA, Ye.V.; AYDAROVA, R.A.; DZHANAYEVA, V.M.; UBUKEYEVA, A.U.; ARBAYEVA, Z.S.; SUDNITSYNA, I.G.; SULTANOVA, R.M.; GORBUNOVA, N.V.; TKACHENKO, V.I.; FILATOVA, N.S.; CHERNEVA, O.V.; VVEDENSKIY, A.I., nauchn. red.; VYKHODTSEV, I.V., otv. red.

[Flora of the Kirghiz S.S.R.; a guide to the plants of the Kirhiz S.S.R.] Flora Kirgizskoi SSR; opredelitel' rastenii Kirgizskoi SSR. Frunze, Ilim. Vol.11. 1965. 606 p.
(MIRA 18:11)

CHERNEVA, O.V.

250th anniversary of the Komarov Botanical Institute of the Academy of Sciences of the U.S.S.R. Uzb. biol. zhur. 9 no. 6:67-68 '65 (MIRA 19:1)

1. Botanicheskiy institut imeni Komarova AN SSSR. Submitted July 16, 1965.

CHERNEVSKIY, O.V.

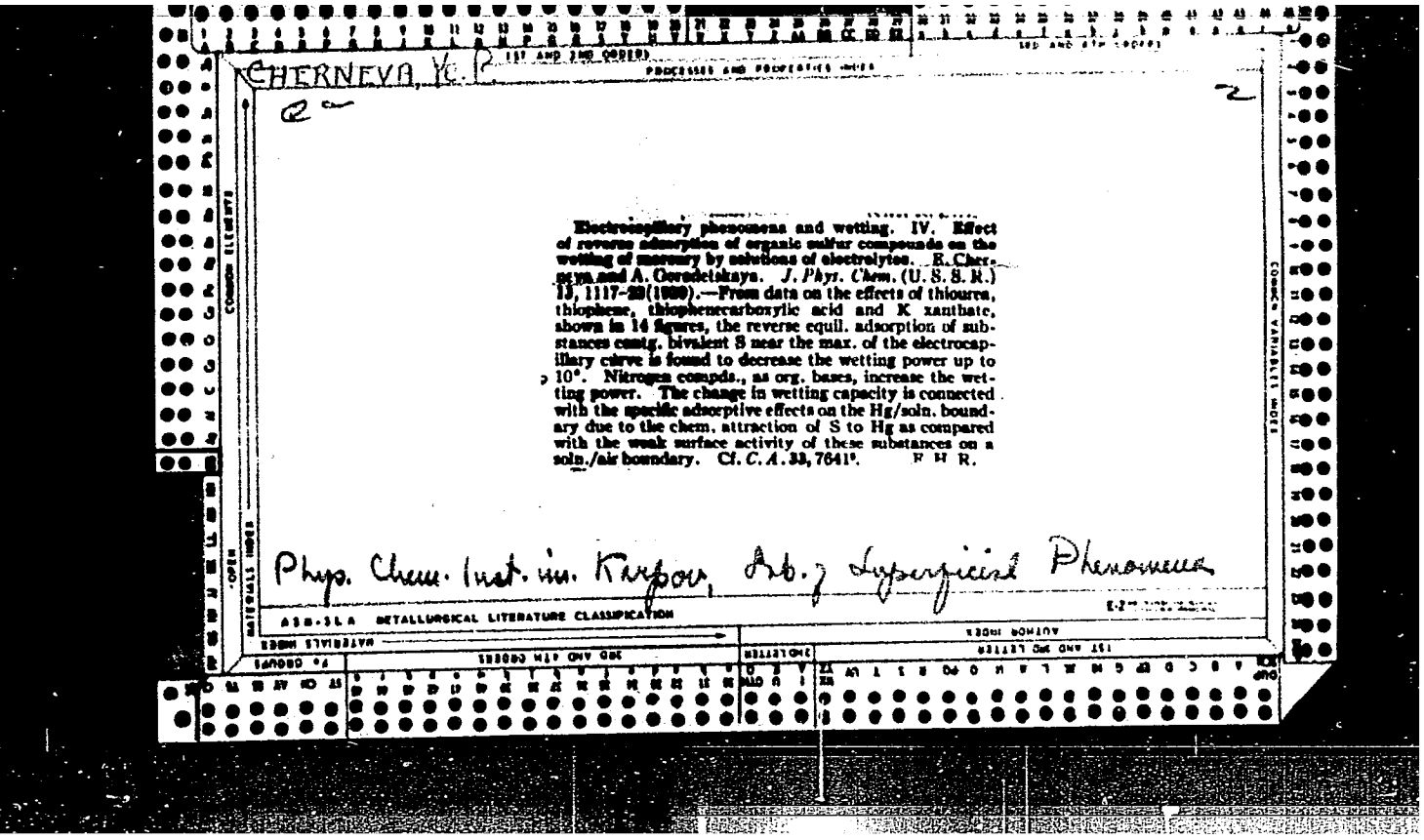
Effect of errors in star coordinates, errors in polar coordinates, and errors in reference moments on the astronomical elements in the geodetic net of the U.S.S.R. Trudy TSNIIGAIK no.154:125-147 '63. (MIRA 16:9)

(Astronomy, Spherical and practical) (Geodesy)

MOLLOV, N.; HAIMOVA, M. [Khaimova, M.]; TSCHERNEVA, P. [Cherneva, P.]; PECIGARGOVA, N. [Pechigargova, N.]; OGNJANOV, I. [Ognianov, I.]; PANOV, P.

Alkaloids of Aconitum ranunculaefolium. Doklady BAN 17 no.3: 251-254 '64.

1. Vorgelegt von B.Kurtev, korr. Mitglied d. Akademie.

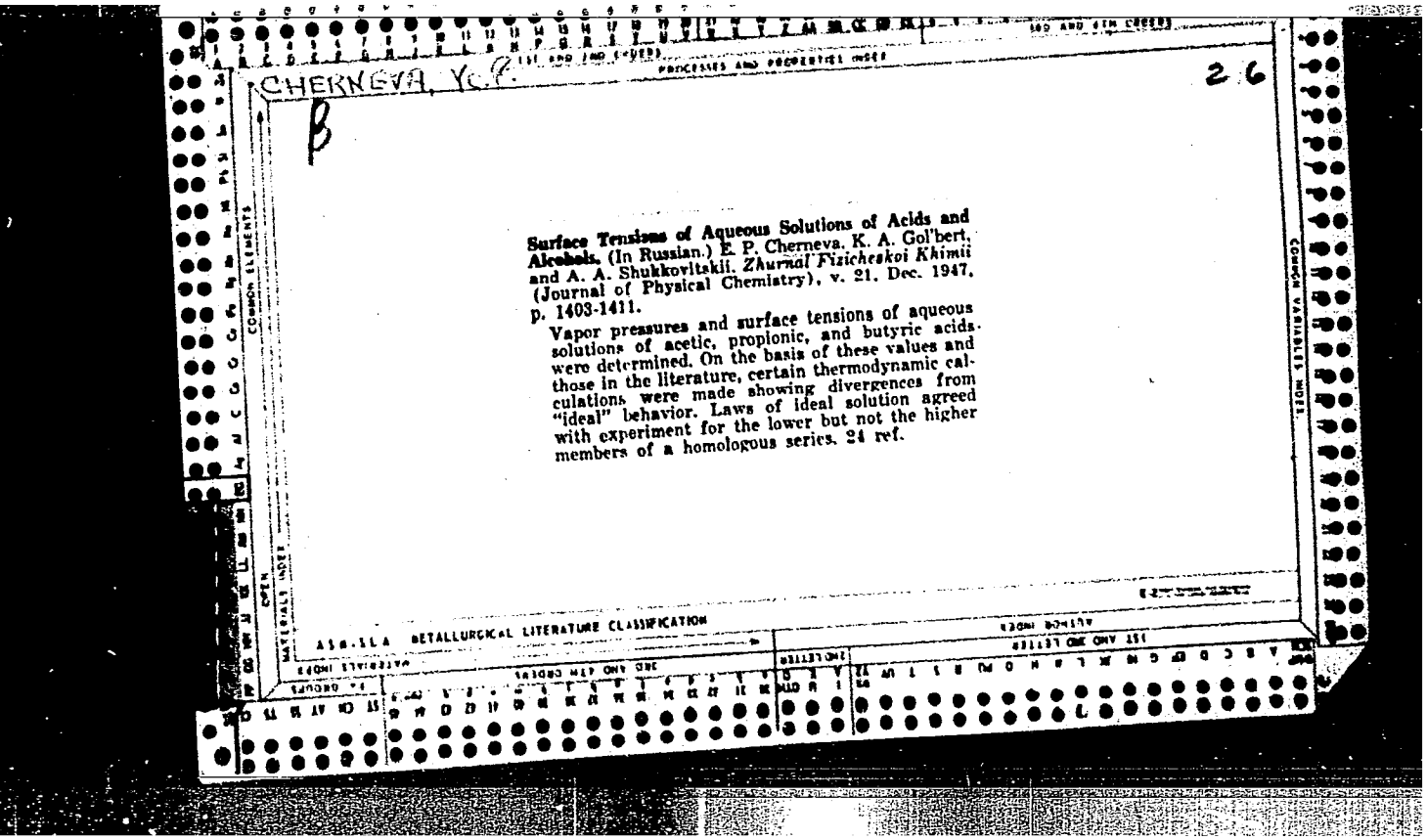


CHERNEVA, Ye. P.

2

Electrocapillary phenomena and wetting. IV. Effect of reverse adsorption of organic sulfur compounds on the wetting of mercury by solutions of electrolytes. E. Cherneva and A. Gorodetskaya. *J. Phys. Chem.* (U. S. S. R.) 13, 1117-29(1939).—From data on the effects of thiourea, thiophene, thiophenecarboxylic acid and K xanthate, shown in 14 figures, the reverse equil. adsorption of substances contg. bivalent S near the max. of the electrocapillary curve is found to decrease the wetting power up to 10°. Nitrogen compds., as org. bases, increase the wetting power. The change in wetting capacity is connected with the specific adsorptive effects on the Hg/soln. boundary due to the chem. attraction of S to Hg as compared with the weak surface activity of these substances on a soln./air boundary. Cf. *C. A.* 33, 7641⁹. F H R.

Phys. Chem. Inst. im. Karpov, Arb. z Oberflächen Phenomena

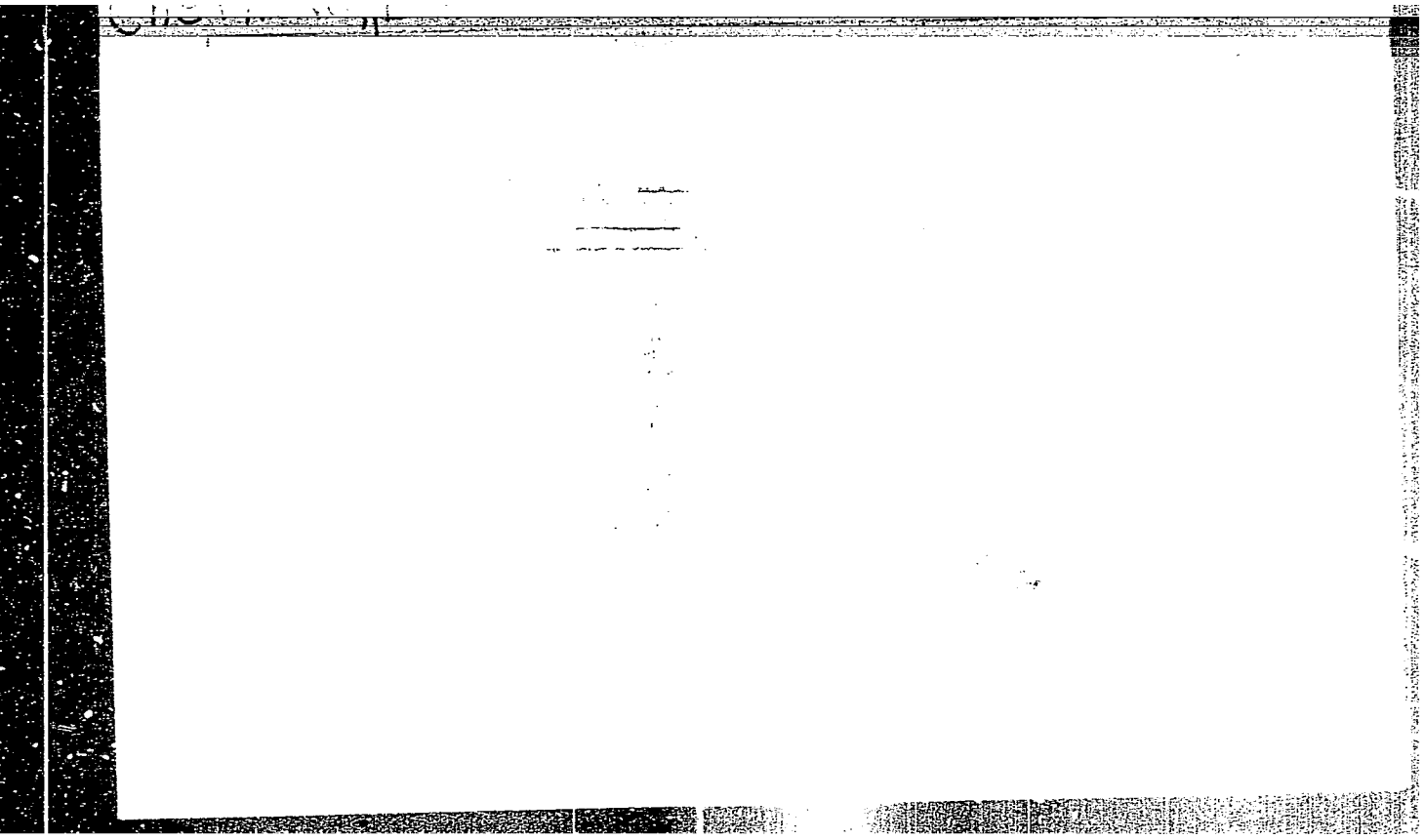


CHERNEVA, YE. V.

CA

Dynamic theory of adsorption and chromatography. I. Broadening of chromatographic bands and adsorption fronts. N. N. Tunitskii and E. V. Chernova (Karpov Phys. Chem. Inst., Moscow). *Zhur. Fiz. Khim.* 24, 1350-60(1950); (cf. Radushkevich, *Doklady Akad. Nauk* 57, 5, 471(1947)).— Chromatographic processes are treated statistically. A sharp adsorption band is broadened because of the fluctuation of the lifetime of the particles in the adsorbed state. Two relations are then derived: $\overline{(x - \bar{x})^2} = 2Kt$ (1) and $\overline{(t - \bar{t})^2} = 2Bx$, which are valid both when diffusion in the liquid or the adsorption is rate-detg. (I) and when the limiting step is the diffusion through the adsorbent particles (II). For I, $K = v^2/\beta\Gamma$, where v is the velocity of the liquid relative to a 1-sq. cm. section of the column, $\beta = \beta_1(1 - \epsilon)$, $\Gamma = \gamma(1 - \epsilon)$ with ϵ = relative vol. occupied by the liquid, γ = adsorption coeff., β_1 = kinetic coeff. A linear adsorption isotherm is assumed throughout. For II, $K = v^2l^2/3\Gamma^2D$, where D is the diffusion coeff. inside the adsorbent and $2l$ is the thickness of the adsorbent particles. Also for II, $B = l^2\Gamma/3Dv$. By taking into account longitudinal diffusion and hydrodynamic factors, 2 addnl. terms are obtained in the expression for K, and (1) becomes: $\overline{(\Delta x)^2} = [(l^2v^2/3\Gamma^2D) + \alpha D_1 + Cv]t$, where D_1 is the diffusion coeff. in the flowing liquid, α = const., $C = f$ (Reynolds no.) = const. if the flow is laminar. Exptl. data obtained with a cation exchanger confirm the theory. First, the column is washed with 20 cc. of a 0.1 N soln. (40% NaCl and 60% HCl). Then the band is displaced with a 0.1 N HCl soln. passed at a given rate, and samples (12 cc.) are taken and analyzed (detn. of NaCl). The above formulas give $(\Delta V)^2/V = Cv$ (2). But $(\Delta V)^2/\bar{V} = [(\overline{\Delta N})^2/\bar{N}]\omega$ with $\bar{N} = \Sigma N C_N/\Sigma C_N$ and $(\overline{\Delta N})^2 = [\Sigma(N - \bar{N})^2 C_N/\Sigma C_N]$. N = no. of sample, ω = its vol., C_N = its NaCl concn. A straight line is obtained in a diagram $(\overline{\Delta V})^2/\bar{V}$ against v in the range $0.3 < v < 20$ cc./min., as predicted by (2). The theory also predicts that the distribution function $W(x, t)$ will be Gaussian at least for sufficiently large values of t. This is verified by plotting $[\log(100/c)]^{1/2}$ against $\Delta N = N - \bar{N}$; a straight line is obtained, as expected for a Gaussian distribution.

Michel Boudart



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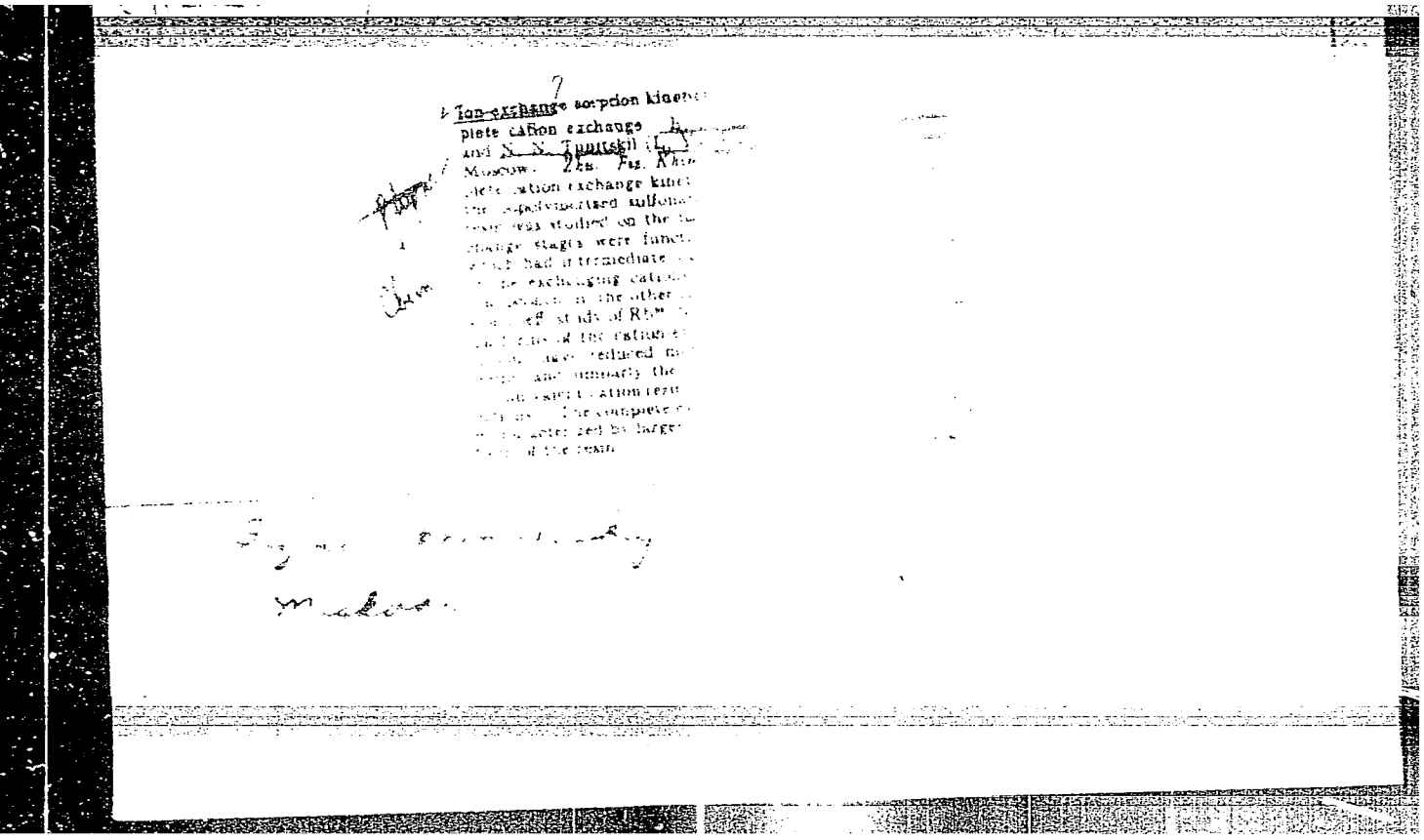

SOV/137-58-9-18449

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 38 (USSR)

AUTHORS: Cherneva, Ye. P., Tunitskiy, N. N.

TITLE: Diffusion Through Ion-exchange Membranes (Diffuziya cherez ionnoobmennyye membrany)

PERIODICAL: V sb. Materialy Soveshchaniya po primeneniyu ionnogo obmena v tsvetn. metallurgii, Moscow, 1957, pp 43-47

ABSTRACT: The ranges of technical application of ion-exchange membranes are traced. The rates of permeation of cations through a cationite membrane on both sides of which different solutions were present initially were studied.

G. S.

1. Ion exchange--Theory

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5(2) PHASE I BOOK EXPLOITATION SOV/1727

Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii

Redkozemel'nyye elementy; polucheniye, analiz, primeneniye (Rare Earth Elements; Extraction, Analysis and Application) Moscow, Izd-vo AN SSSR, 1958. 351 p. 2,200 copies printed.

Resp. Ed.: D. I. Ryabchikov, Professor; Editorial Board: I. P. Alimarin, Corresponding Member, USSR Academy of Sciences, I. N. Zaozerskiy, Doctor of Chemical Sciences, R. V. Koglyarov, Candidate of Technical Sciences, V. I. Kuznetsov, Doctor of Chemical Sciences, M. M. Senyavin, Candidate of Chemical Sciences, and Yu. S. Sklyarenko, Candidate of Chemical Sciences; Eds. of Publishing House: D. N. Trifonov and T. G. Levi; Tech. Ed.: S. G. Markovich.

PURPOSE: This book is intended for scientists, chemists, teachers and students of higher educational institutions, chemical and industrial engineers, and other persons concerned with the extraction, preparation, use, or study of rare earth elements.

COVERAGE: This collection contains reports presented at the June 1956 Conference on Rare Earth Elements at the Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences USSR. The articles treat chemical methods of separating rare earth mixtures, methods of processing rare earth ores, ion exchange chromatography, chemical analysis, and some industrial applications of rare earths. Aside from contributing authors, the editors mention the following Soviet scientists, who are studying rare earth elements, rare earth deposits, extraction methods, and the preparation of oxides and salts: Martynov, Mel'nikov, Khrushchev, Melikov, Pisarzhevskiy, Chernyak, Tanatar, Belousov, Zhukov and especially, N. A. Orlov, who first obtained the majority of rare earth elements in the pure state, separated many complex molecular compounds of these elements, and determined their specific properties. References are given at the end of each article.

TABLE OF CONTENTS:

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CHERNEVA, Ye.P.

AUTHORS: Tunitskiy, N. N., Nekrasov, V. V., Cherneva, Ye. P. 78-1-13/43

TITLE: The Theory of the Separation of Rare Earths by Means of Chromatographical Methods (Teoriya razdeleniya redkozemel'nykh elementov khromatograficheskim metodom).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 66-73 (USSR).

ABSTRACT: Results of the application of statistical methods with respect to the theory referred to in the title are described in the present report, and theoretical results are compared with the experimental ones. Washing out of chromatographic apexes of curves. The efficiency of separation of the ions of two elements depends 1st on the static factors of separation (ratio of the coefficients of sorption of the ions) and secondly on kinetic factors. The coefficients of diffusion D_c (in the grains of the adsorbent) and D_p (in the solution) are described by means of equations (1). These coefficients of autodiffusion were measured in several elaborate investigations. The velocity of diffusion of the rare earths in sulfopolystyrene-resin KU-2 was measured by the authors. D_c is equal to 10^{-7} cm^2/sec. If Dc is known, the part of the

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washing out which is caused by the diffusion processes in the river, can be determined. This part is expressed by the second and third term of the equation:

$$K = \frac{R^2 v^2}{15 D_c \Gamma^2} + \frac{\delta v^2}{S D_p \Gamma} + \frac{D_{long}}{\Gamma} \quad (3),$$

in which case R - is the radius of the particles, v - the velocity per 1 cm^2 of the cross-section, $\Gamma = \beta(1 - \alpha)$, β - the coefficient of sorption with respect to the unit of volume in the interior of the grain of sorbent, δ - the thickness of the effective thin film of diffusion in the solution, S - the specific surface of the sorbent and $D_{long.}(D_{pr})$ - coefficient of the longitudinal diffusion. For univalent elements, and when using HCl as rinsing solution, it was found that the part K which depends on the processes in the solution, is approximately proportional to "v". (reference 4). Then,

$$K = \frac{R^2}{15 D_c \Gamma^2} v^2 + \frac{CR}{\Gamma} v \quad (3').$$

The washing out of the apex consequently consists of 2 parts. The first part depends on the inner diffusion in the grains of sorbent and is proportional to $\frac{v^2}{\Gamma^2}$. The second part depends on the processes in the flo-

Card 2/5

wing solution and is approximately proportional to $\frac{v}{\Gamma}$. Other kinetic factors can also be seized with the same method. The equation (3) can be directly applied in the cases where the distribution of ions is considered in the length of the column. Experimental investigation of the apexes. For experimentally re-examining the equation:

$$\frac{(\Delta V^2)}{\bar{V}} = a_1 + b_1 v \Gamma^2 \quad (7)$$ which was derived by applying (3'), the washing-out of the apexes of Rb^{86}, which was achieved by rinsing of the column with "Espatite-1"-resin by 0,1 n HCl (reference 1) was investigated. The tests confirmed the theoretically required dependence of the width of the band on the length of the column and proved the correctness of the equation (7). The results of one of the tests are shown in table 1 and figure 1. A diagram was drawn of the results of each test (figures 1, 2). Investigation of the kinetics of the ion-exchange of rare earths. The above investigation does not yet permit to draw any definite conclusions on the role of individual kinetic factors with the separation, and on the influence of the complex-former. As is generally known, the apexes of rare earths are largely expanded with the decreasing pH of the solutions of

citric acid. The kinetics of desorption of several elements in 5% solution of this acid with different pH (adjusted with ammonia) were investigated for clarifying these problems (reference 5). The values of the coefficients of diffusion of the ions of rare earths within the resin-grains (D_c) were computed from the curves of desorption. The found constancy of the D_c-values confirms the mechanism of diffusion of the desorption. It is shown in table 3 that the average values of these coefficients are independent on the composition of the solution. It hence results that the complex-former has no specific effect with low pH. It results from table 4 in which the dependence of the coefficients of diffusion on the pH for La^{140} and Eu^{154} are reproduced that D_c increases to some extent with increasing pH. The washing out of the apexes is mainly explained by processes in the solution. Table 5 shows the influence of the atomic number on the value of the coefficient of diffusion. The heavy rare earths diffuse many times more rapidly in resin than do the light. The conditions of separation. An increase of the coefficient of sorption prolongs the duration of separation and viceversa.

Card 4/5 There are 3 figures, 5 tables, and 7 references, 5 of which are Slavic.

The Theory of the Separation of Rare Earths by Means of Chromatographical Methods. 78-1-13/43

ASSOCIATION: Scientific Physical-Chemical Research Institute imeni L. Ya. Karpov MKhP (Ministry of Chemical Industry) USSR (Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni L. Ya. Karpova MKhP SSSR).

SUBMITTED: May 19, 1957.

AVAILABLE: Library of Congress.

Card 5/5

AUTHORS: Cherneva, Ye.P., Pashkov, A.B., Barabanov, S.N., Tunitskiy, N.N. 76-32-6-40/46

TITLE: The Effect of the Capacity of **Sulphostyrene** Cations on the Ion-Exchange Equilibrium (O vliyanii yemkosti sul'fostirol'nykh kationov na ionoobmennoye ravnovesiye)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 6, pp. 1423-1424 (USSR)

ABSTRACT: The problem of the influence of the capacity of the ionites on their selectivity is insufficiently investigated as, e. g. the assumption of the paper by Bauman (Ref 1) was not verified, and in the experiments conducted by Boyd (Ref 3) besides the structural change also a chemical change of the composition of the cationites may have taken place. In order to avoid the disadvantages of the **desulphurization** method in the investigation of the selectivity the authors synthetized highly acidous **sulphostyrene** cationites of a different content of sulfo groups and interchain-bonds according to the method of direct **sulphurization.** The equilibria Na-H, Rb-H-and Ca-H were investigated with 0,1 n solutions and samples having been used; the selectivity of the exchange was

Card 1/2

determined according to an equation. From the mentioned data of the experiments may be seen that the assumption can be made that the selectivity of Rb and Na in resins of small capacity is smaller than in those of high capacity. The experiments carried out with the equilibrium Ca-H also showed that with the increase of the capacity of the resin also the selectivity increases. The individual values as well as the corresponding resin compositions are given. There are 4 references, 1 of which is Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova, Moskva
(Institute of Physics and Chemistry imeni L.Ya. Karpov, Moscow)

SUBMITTED: October 9, 1957

1. Gases--Condensation 2. Gases--Decomposition . Mathematics

CHERNEVA, Ye. P.

5(2),(3) PHASE I BOOK EXPLOITATION SOV/2554

Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk. Komissiya po khromatografii

Issledovaniya v oblasti ionoobmennoy, raspredelitel'noy i osadochnoy khromatografii (Studies in the Field of Ion Exchange, Distribution and Precipitation Chromatography) Moscow, Izd-vo AN SSSR, 1959. 150 p. Errata slip inserted. 3,500 copies printed.

Ed. of Publishing House: K.G. Yegorov; Tech. Ed.: I.M. Guseva; Editorial Board: K.V. Chmutov, Corresponding Member, USSR Academy of Sciences (Resp. Ed.); F.M. Shemyakin, Professor; K.M. Ol'shanova, Professor; K.M. Saldadze, Docent; and N.N. Tunitskiy, Professor.

PURPOSE: This book is intended for chemists and chemical engineers.

COVERAGE: The book discusses studies in ion-exchange, distribution, and precipitation chromatography. Various problems of the theory of chromatography and its application are also considered. This is the 4th collection of articles published by the Committee on Chromatography. The first collection was published in 1952 under the title: "Issledovaniya v oblasti khromatografii" (Studies in the Field of Chromatography); the second was published in 1955 under the title "Teoriya i praktika primeneniya ionoobmennykh materialov" (Theory and Practice of the Use of Ion-exchange Materials); and the third was published in 1957 under the title "Issledovaniya v oblasti ionoobmennoy khromatografii" (Studies in the Field of Ion-exchange Chromatography). No personalities are mentioned. References are given after most of the articles.

5(4)

SOV/76-33-4-28/32

AUTHORS: Fedoseyeva, O. P., Cherneva, Ye. P., Tunitskiy, N. N.

TITLE: Investigation of the Kinetics of Ion Exchange Sorption (Issledovaniye kinetiki ionoobmennoy sorbtsii).II. Kinetics of Exchange With Participation of Hydrogen Ions (II. Kinetika obmena s uchastiyem vodorodnykh ionov)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 4, pp 936-942 (USSR)

ABSTRACT: The investigation under review deals with the process of the complete cation exchange and limiting cases of the exchange - the self-diffusion and diffusion of ions of microcomponents in the resin - of various cation forms. In the case of a complete exchange the investigation concerned the initial as well as the end stage at which one of the exchanging cations was present in a small quantity. The effective diffusion coefficients (DC), that were computed for this case, were compared with the (DC) for the ions of the microcomponents. To simplify calculations the authors investigated along with the full exchange in the resin, the exchange of the cations in cation exchanger membranes (from sulphurized polystyrene

Card 1/4

resin). In fact, when exchanging cations of different mobilities through the membrane, an electric field is generated (as in the case of the complete exchange in resin), which can be measured. The kinetics of the cation exchange was investigated on polystyrene resins with various contents (high, normal, low) of divinyl benzene. The kinetic experiments took place at 19-20°. Under investigation were monovalent cations in 0.165 n and bivalent cations in 0.25 n and 1 n solutions. An adsorption or desorption method was applied, with use of the isotopes Na^{24}, Rb^{86}, Sr^{89} and Ca^{45}. The above mentioned membranes contained 70% of resin KU-2 and 30% divinylbenzene. It was observed (Fig 1) that the quickest exchange is that of H^+-ions from the resin with Na^+-ions of the solution, and the slowest is the diffusion of the ions of the microcomponents of sodium in the resin (in the H-form). Values are given of the effective (DC) for the

 exchange between the Na^+ and H^+ in the resin (with lower

divinylbenzene content) (Table 1), as well as the (DC) of Na^+ being found in microamounts in the resin (Table 2), and it proceeds therefrom that the complete exchange between Na^+ and H^+ takes place with a higher effective (DC) than are the (DC) of the ions of the microcomponents of sodium, which diffuse in resin (in the H-form). The same also holds for rubidium. The effective (DC) increase with a decrease in the relative content of H-ions in the resin which is explained by an anomalously greater mobility of the H-ions in the resin. The ions Na^+, Ca^{2+} and Ce^{3+} were investigated on the cation exchanger membrane. It was observed that (Fig 4) the effective (DC) increase with the decrease of the relative content of H-ions in the solution. There are 6 figures, 2 tables, and 7 references, 1 of which is Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova, Moskva (Physico-chemical Institute imeni L. Ya. Karpov, Moscow)

S/076/61/035/001/012/022
B004/B060

AUTHORS: Cherneva, Ye. P., Barabanov, S. R., Bryukhanov, V. A., Pashkov, A. B., and Tunitskiy, N. N. (Moscow)

TITLE: Change in the selectivity of monofunctional sulfonated cation exchangers as a function of the concentration of initial electrolyte solutions and the charges of exchanging ions

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 1, 1961, 189-191

TEXT: The authors wanted to study the selectivity of the sulfonated cation exchanger of the type КУ-2 (KU-2). The exchanger was obtained by copolymerization of styrene with divinyl benzene and the subsequent sulfonation by means of chloro sulfonic acid. In H form, this resin is a polyacid, while in salt form it is a polyelectrolyte, whose anions are strongly bound to the resin, and whose cations are mobile. The following aspects were investigated through a study of the equilibrium of ion exchange: a) the dependence of selectivity on the exchanger capacity; b) the dependence of selectivity on the cross linking; c) on the initial

Change in the selectivity of ...

concentration of the electrolytes, d) on the valence of exchanging ions. The weighed-in portion of dried resin was shaken for 35-40 hours at room temperature with an exactly known volume of an electrolyte solution of a known concentration, and the concentration of the components in the solution was then determined. A resin with equal cross linking (7%), but different capacity (0.18 mg-equiv/l and 4.63 mg-equiv/l) was taken for the $RH^+ - Ca^{2+}$ system. The coefficient of selectivity was calculated by B. P. Nikol'skiy's equation:
$K = (N_{Ca}^{1/2}/n_{Ca}^{1/2})(n_H/N_H)$. N, n are the equivalent portions of cations in resin and in solution, respectively. The following results were obtained for resin with the capacity 0.18 mg-equiv/l: for 0.895 N $CaCl_2$ $K = 0.35\pm0.1$; for 1.90 N $CaCl_2$ $K = 0.12\pm0.03$. For resin with a capacity 4.63 mg-equiv/l, K amounted to 8.99 ± 0.82 for the first mentioned concentration of $CaCl_2$, and 4.75 ± 0.07 for the second concentration. Resin, cross-linked with 7% and resin with 24% divinyl benzene displayed no change of selectivity in the $RH^+ - Na^+$ system. Resin with 7% cross linking displayed

on a rising concentration of the external solution a reduced selectivity in the $RH^+ - Na^+$ and $RH^+ - La^{3+}$ systems. With constant specific loading, capacity, and cross linking, selectivity increased with the valence of the ion charge. There are 1 figure, 2 tables, and 11 references: 3 Soviet-bloc and 7 non-Soviet-bloc.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: May 13, 1959

KARGIN, V.A. akademik; EFENDIYEV, A.A.; CHERNEVA, Ye.P.; TUNITSKIY, N.N.

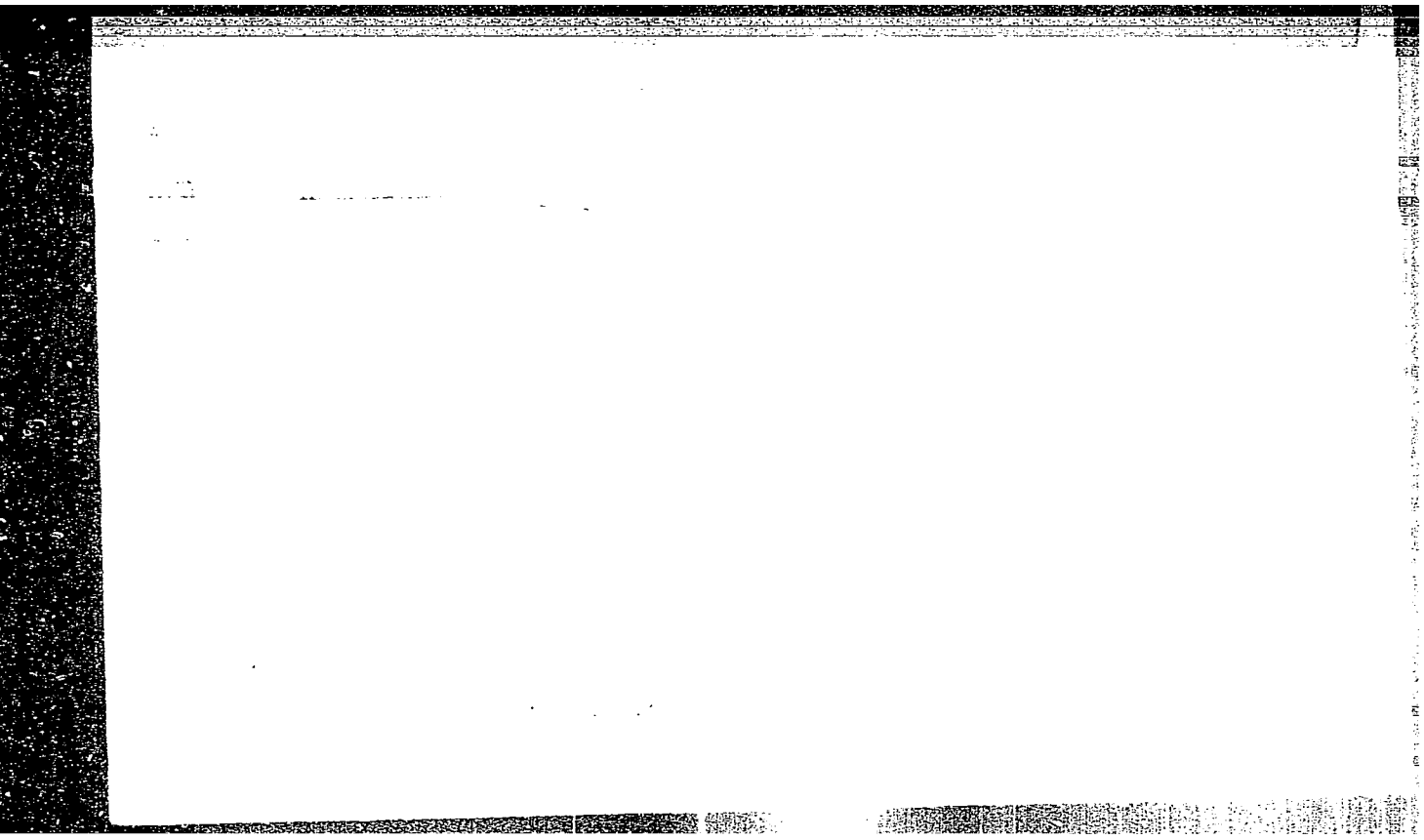
Preparation and study of a homogenous polymeric membrane having complex-forming properties. Dokl. AN SSSR. 144 no.6:1307-1308 Je '62. (MIRA 15:6)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.
(Membranes (Chemistry)) (Polymers)

[redacted]

E[illegible]NDIYEV, A.A.; CHERNEVA, Ye.P.; TUNITSKIY, N.N.; KARGIN, V.A.

Preparation of complex-forming polymeric materials as homogeneous films, and the study of their properties. Azerb. khim. zhur. no.5:73-78 '63 (MIRA 17:8)



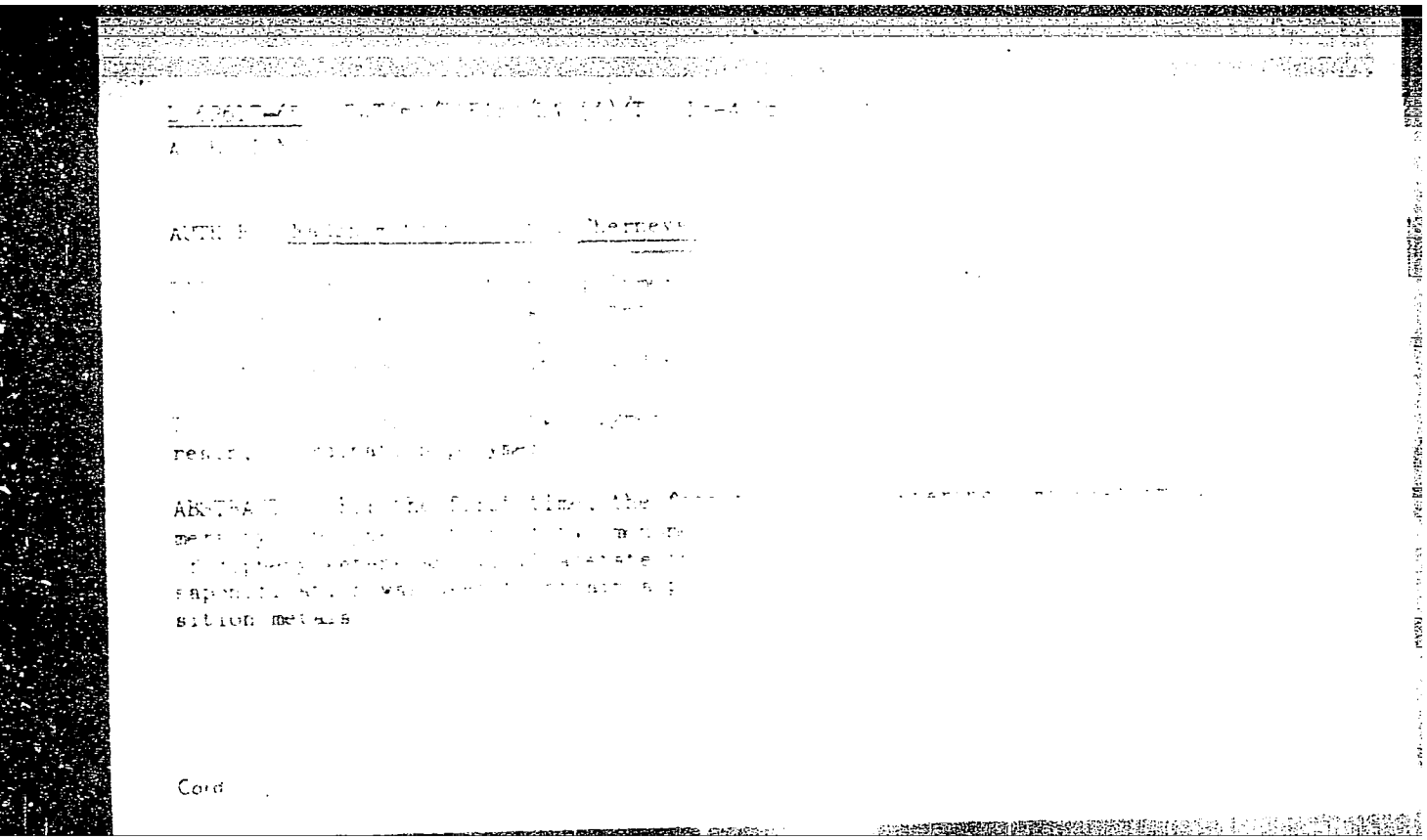
APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510012-1"

ACCESSION NR: AT4004864

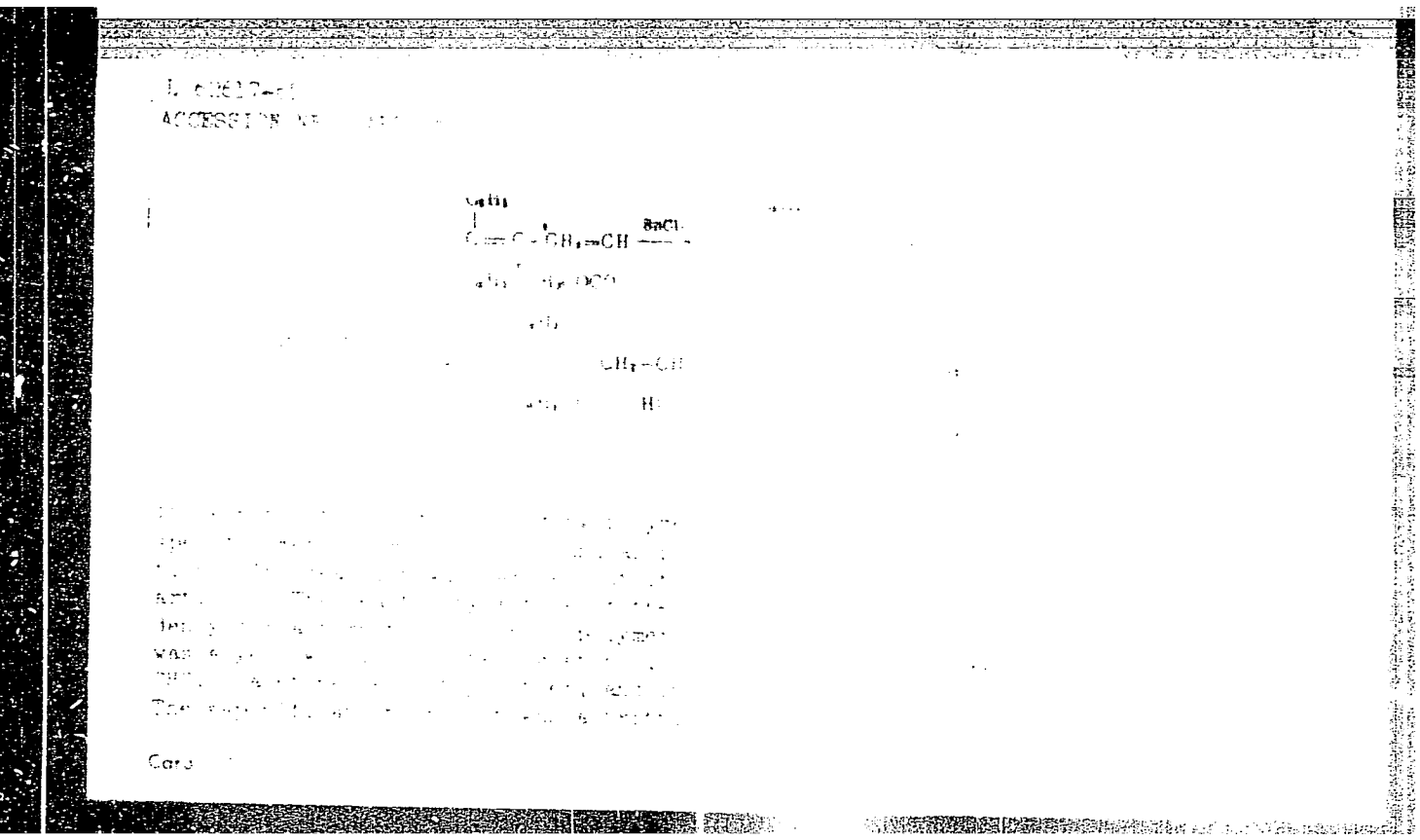
EFENDIYEV, A.A.; CHERNEVA, Ye.P.; TUNITSKIY, N.N.; KARGIN, V.A.

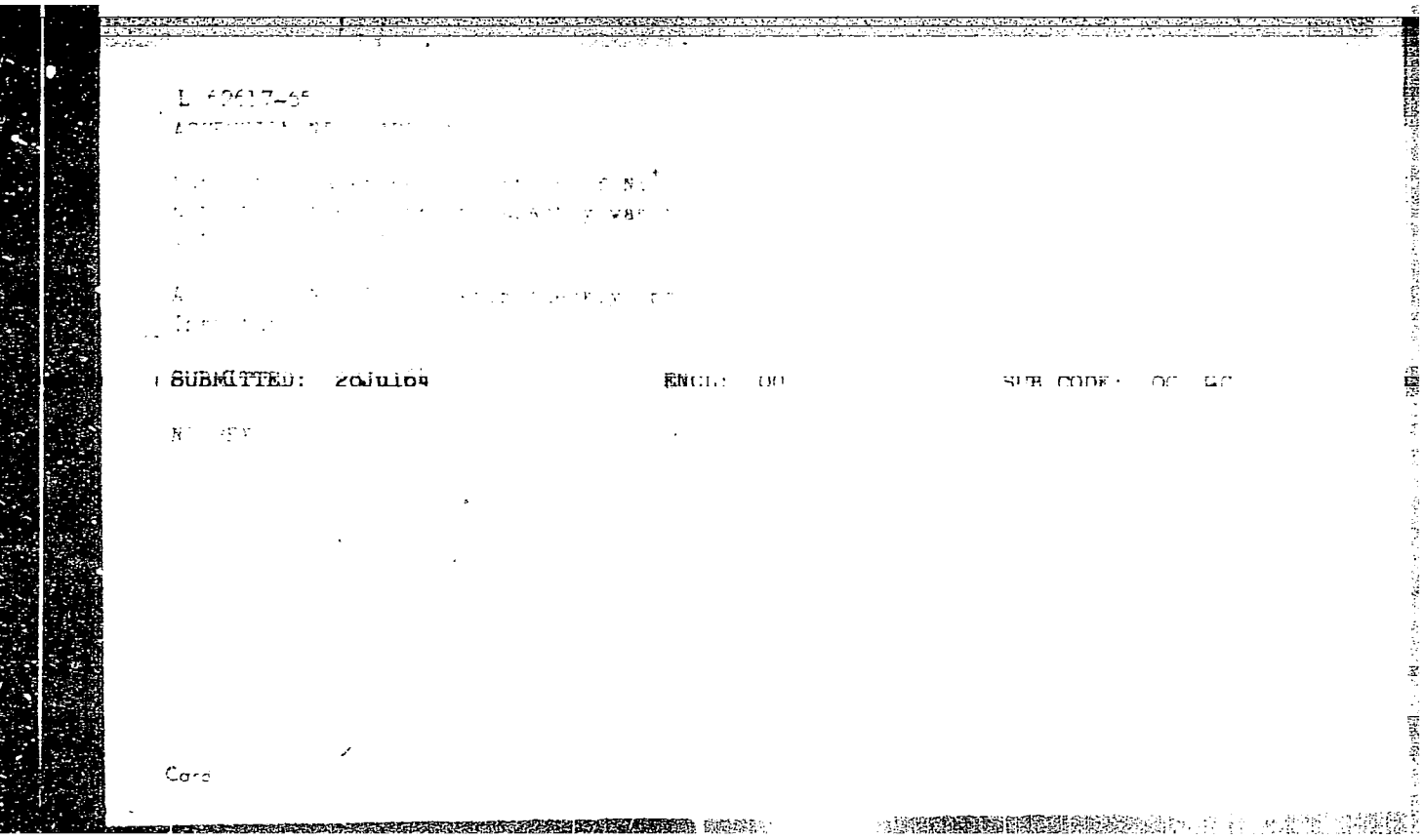
Kinetics of ion extraction by polymeric complex-forming films.
Zhur. fiz. khim. 38 no.4:1035-1038 Ap '64. (MIRA 17:6)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.



Cord





SUBMITTED: 20Jul84

Cora

L 46188-66 EWT(m) DS/RM

ACC NR: AP6030600 (A,N) SOURCE CODE: UR/0413/66/000/016/0092/0092

INVENTOR: Cherneva, Ye. P.; Kargin, V. A.; Tokar', Ye. G.; Tunitskiy, N. N.

ORG: none

TITLE: Preparation method for a homogeneous ion-exchange membrane. Class 39, No. 185052

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 92

TOPIC TAGS: ion exchange membrane, COPOLYMERIZATION, SOLFONIC ACID, ETHYLENE, VINYL COMPOUND

ABSTRACT: An Author Certificate has been issued for a preparative method for a homogeneous polymeric ion exchange membrane, involving ultra-violet-initiated copolymerization of ethylenesulfonic acid derivatives with vinyl compounds, subsequent cross-linking of the copolymer, and fabrication of the film. The ethylenesulfonic acid derivative used is sodium ethylenesulfonate and the vinyl compound, acrylic acid; the components are copolymerized, the film is fabricated and then subjected to irradiation [unspecified]. [SM]

SUB CODE: 11/ SUBM DATE: 23Mar62

Card 1/1 fv UDC: 661.183.125:678.741-134.432:011:537.591

CHERNEVICH, V. YA.,

Moscow Machine Tool and Tool Institute imeni Stalin (-1946-)

Cand. Technical Sci.

"Facing Non-Circular Parts by a Method of Rounding," Stanki I Instrument, 17, Nos. 7-8, 1946

CHERNEVICH, V.Ya.

Vertical boring and turning lathes. Standartizatsiia 25 no.1:45-47 Ja '61. (MIRA 14:3)

(Lathes--Standards)

S/028/62/000/003/002/005
D221/D302

AUTHOR: Chernevich, V.Ya.

TITLE: The standardization of semi-automatic tooth cutting machine tools incorporated in automatic lines

PERIODICAL: Standartizatsiya, no. 3, 1962, 17-20

TEXT: ГОСТ (GOST) 6852-62 covers vertical semi-automatic tooth cutting machine tools. They are of general purpose and may be incorporated in automatic lines with a provision of swarf removal and automatic loading of workpieces (up to 500 mm dia.). The standard extends to units capable of machining up to 5000 mm. The new standard regulates the following dimensions: The maximum diameter of the workpiece, length of spur teeth, modulus and the angle of helical gears; maximum diameter of the hob; hole size in the front part of the spindle or in the table, as well as their flanges; size of spindle taper, and finally, the distance between the axis of component and the front wall of the machine, and also between the bottom of the unit and the lower face of the workpiece. Specification

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The standardization of ...

of plan view sizes and outlet of swarf is given only for units to be incorporated in the flow lines. The majority of the specified sizes are exponential functions of the maximum machines diameter. The diameters vary in a geometrical series of $\varphi_D = 1.6 = 1.12^4$, whereas the length of the teeth is governed by a series $\varphi_H = 1.41 = \varphi_D^{0.75}$. The exponent for the maximum modulus is $\varphi_m = 1.6 = \varphi_D$ and $\varphi_m = 1.25 = \varphi_D^{0.5}$. The numerical value for the modulus was increased when compared to GOST 6852-54 to bring it in line with the modern trend, and also by considering GOST 9563-60 on gear moduli. The maximum angle of the helical gears is limited to 45° for units to be fitted into automatic lines. It is extended to 60° in the case of other machine cutting gears with a maximum diameter of 1250 mm. The diameter of the spindle hole d, is assumed as no less than 0.8 of the maximum diameter of workpiece, and it should conform to GOST 6569-59 on table dimensions. The specification laid down the dimensions of spindle cone, and thus will facilitate the standardization of tooling. It takes into account GOST 9324-60 concerning hobs. The

The standardization of ...

maximum diameter of hobs used in machines which are incorporated in the flow lines is 180 mm. The specification of the machine height will facilitate their fitting into the automatic lines with the use of standardized loading equipment. The distance between the workpiece axis and the front wall of the machine varies according to the exponent $\varphi_a = 1.12 = \varphi_D^{0.25}$. The height of the machine, H, is fixed in conformity with GOST 6653-60 on normall linear dimensions. The length a_1 of the distance between the workpiece axis and the right or left hand side of the unit is also specified on account of the importance of keeping the pitch of the conveyor constant. The length of the machine L, is characterized, by the exponent $\varphi_L = 1.25 = \varphi_D^{0.5}$, whereas a_1 has a factor $\varphi_{a_1} = 1.12 = \varphi_D^{0.25}$. The author expects an important economical advantage from the introduction of this standard.

USSR

CHERNEVICH, V.Ya.

Semiautomatic lathes for automatic lines. Standartizatsiia 26 no.9:31-33 S '62. (MIRA 15:9)
(Lathes—Standards)

CHERNEVICH, V.Ya.

Semiautomatic vertical internal grinding machines. Standartizatsiia 28 no.2:46-47 F '64. (MIRA 17:3)

CHERNEVICH, Ye.L.

Diagnostic value of punctates from tumors and tumorlike lesions. Sov. med. 18 no.12:33-34 D '54. (MLRA 8:2)

1. Iz khirurgicheskoy kliniki (zav.-prof. A.V.Mel'nikov) Ukrainskogo instituta eksperimental'noy meditsiny i onkologicheskogo otdeleniya (zav. D.V.Mysh) Novosibirskoy oblastnoy bol'nitsy.

(PUNCTURES
in neoplasms, diag. value)
(NEOPLASMS, diagnosis
punctures)

KARELINA, N.I.; CHERNEVICH, Ye.L. (Novosibirsk)

A case of sarcoma of the lungs. Klin. med. 32 no.11:63-65 N '54.
(MLRA 8:1)

1. Iz gospital'noy khirurgicheskoy kliniki (zav.-doktor meditsinskikh nauk I.L.Bregadze) Novosibirskogo meditsinskogo instituta na baze oblastnoy bol'nitsy (glavnyy vrach V.N.Kutikov)
(LUNGS, neoplasms
sarcoma)

TOLMACHEV, N.Kh.; CHERNEVICH, Ya.L.

Plasma cell myelomas. Lab.delo no.5:22-24 S-O '55.
(MIRA 12:6)

1. Iz kafedry patofiziologii (zav. - dots. N.Kh.Tolmachev) Novosibirskogo meditsinskogo instituta i kliniko-diagnosticheskoy laboratorii (zav. L.P.Bredikhina) Tsentral'noy poliklinikiNovosibirska.
(MYELOMA, PLASMA CELL, case reports,)

CHERNEVICH, Ye.L.

CHERNEVICH, Ye.L. (Novosibirsk, Krasnyy prospekt, d.16, kv.50)

So-called white bile found in obstruction of the bile ducts. Nov.khir.arkh. no.4:75-77 Jl-Ag '57. (MIRA 10:11)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. V.N.Shamov) Khar'kovskogo meditsinskogo instituta i kafedra gospital'noy khirurgii (zav. - prof. I.L.Bregadze) Novosibirskogo meditsinskogo instituta.
(BILE DUCTS--DISEASES) (BILE)

MOLOTKOV, L.F., kand.tekhn.nauk, dots.; CHERNEVICH, Ye.M., inzh.

Heat treatment of low-alloy cast iron used for iron mill rolls. Izv.vys.uchab.zav.; chern.met. 2 no.7:91-95 Jl '59. (MIRA 13:2)

1. Dneprodzerzhinskiy vechernyy metallurgicheskiy institut i zavod im. Dzerzhinskogo.
(Cast iron--Heat treatment)
(Rolls (Iron mills))

S/148/62/000/008/009/009
E193/E383

AUTHORS: Grebenik, V.M., Tylkin, M.A., Kucherenko. V.F. and Chernevich, Ye.M.

TITLE: Analysis of the fracture surfaces of parts of metal-working equipment

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 8, 1962, 175 - 182

TEXT: A proper understanding of factors affecting the resistance of working parts to fracture is of the utmost importance to both the designer and user of metal-working equipment. In practice, the most frequent type of fracture is that associated with fatigue and a great deal of useful information regarding the mechanism and the precise cause of failure can be obtained by examination of the fracture surface and correlating the results with other known pertinent data. To demonstrate the usefulness of this investigational method the present authors applied it to establish the cause of fracture of six components. By correlating the service conditions of each part with its material, heat-treatment, mechanical properties,

Analysis of the fracture ....

macro- and microstructure and the patterns of the fracture surfaces, they arrived at the following conclusions: 1) the fracture of the jaw of the universal coupling of the upper roll journal of a 750 stand was caused by a single overloading due to accidentally folded strip passing through the rolls, the low impact strength of the steel being a contributory factor; 2) the fracture in the second groove of the upper roll of a blooming mill was caused by stress concentration contributing to the formation of the first fatigue crack, which initiated ductile fracture of the component; 3) the fracture of the middle roll of a 3-high stand 550 was attributed to the fact that the roll had not been preheated when it was reconditioned by the building-up process. This set up internal stresses, leading to the formation of a circumferential crack and later to brittle fracture; 4) the fracture of the main shaft of the flywheel of a 500 mm stand was caused by a large number of short-duration overloads; 5) alternating loads caused the fracture of a shaft in the reducing gear of a wire-drawing machine; 6) alternating loads of a magnitude approaching the

Analysis of the fracture ....

fatigue limit of the material caused fatigue fracture of the pulley of a blast-furnace charging-skip hoist. The examples quoted demonstrated the need for rigorous control of all the factors which might contribute to the formation of fatigue cracks (quality of the materials, design, heat and mechanical treatment, service loads, corrosive media). It was concluded that all working parts should be periodically inspected and if fatigue cracks were detected they should be removed. Detailed investigation of each failure should be carried out and the results used to take measures to prevent recurrence of the failure. There are 6 figures and 1 table.

ASSOCIATIONS: Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz (Dneprodzerzhinsk Metallurgical Works-Vtuz)
Metallurgicheskiy zavod im. F.E. Dzerzhinskogo (Metallurgical Works im. F.E. Dzerzhinskiy)

SUBMITTED: March 27, 1961

Card 3/3

NIKITSKAYA, V.A.; TYLKIN, M.A.; CHERNEVICH, Ye.M.

Metallographic investigation of 20p steel ingots and intermediate products. Izv. vys. ucheb. zav.; chern. met. 7 no.3:169-178 '64. (MIRA 17:4)

1. Zavod im. Dzerzhinskogo i Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz.

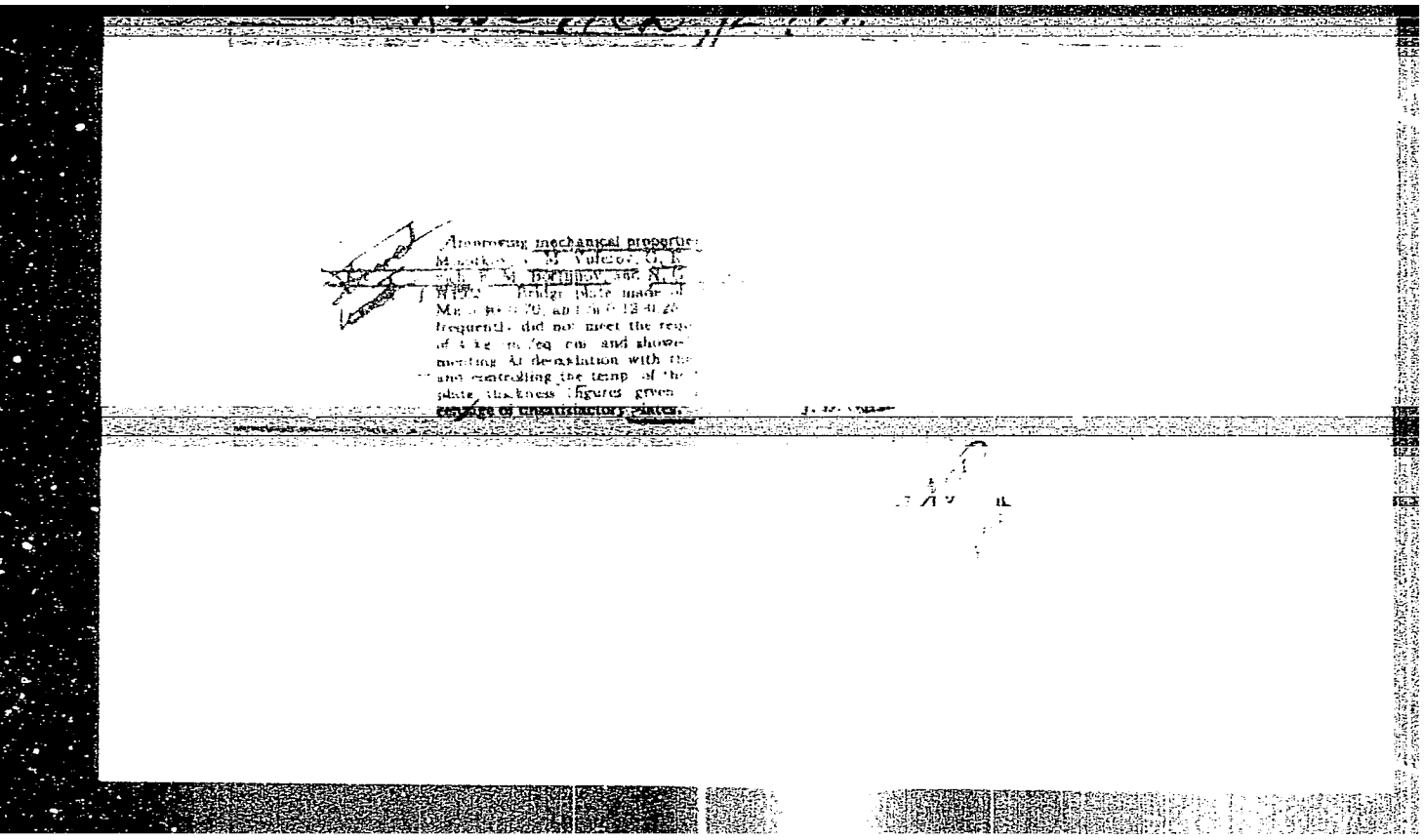
BESEDIN, P.T.; SOROKIN, A.A.; FILONOV, I.G.; KARPUNIN, A.M.; CHEPELEV, P.M.; SHCHERBINA, P.A.; AVDEYEV, M.G.; KUTSENKO, A.D.; TSELYUKO, V.I.; CHERNEVICH, Ye.M.; ORGIYAN, V.S.; CHERNETA, Z.A.

Improving the technology of the heat treatment of rails at the Dzerzhinskii Plant for the purpose of increasing their durability in tracks. Stal' 24 no.5:445-448 My '64. (MIRA 17:12)

1. Dneprovskiy metallurgicheskiy zavod im. Dzerzhinskogo i Ukrainskiy nauchno-issledovatel'skiy institut metallov.

MOLOTKOV, L.F., dotsent, kand. tekhn. nauk; YUFEROV, V.M., dotsent, kand. tekhn. nauk; KUZNETSOV, M.P., inzh.; CHERNEVICH, Ye.M.; BORTUNOV, Ye.M.; SOROCHAN, N.G.; MADZHAR, P.I.

Ways of increasing the output of rolled products acceptable for their mechanical properties during the rolling of M16S, St.3M, and 15KhSND steel on universal mills. Stal' 24 no.9:824-827 S '64.
(MIRA 17:10)



Optical Monocrystals of Strontium and Barium Fluorides.

monocrystals were grown under high-temperature vacuum conditions in molybdenum and graphite crucibles (Ref.3). Optical constants and the transmission curve in the ultraviolet, visible and infrared regions were measured on these SrF_2 and BaF_2 monocrystals. The figure on p.273 gives the transmission curves of CaF_2(curve 1), SrF_2 (curve 2) and BaF_2 (curve 3). In the short-wavelength region the transmission limit of SrF_2 lies near 1800 Å, while that of BaF_2 lies near 2000 Å. In the infrared region SrF_2 and BaF_2 have transmission limits further than CaF_2. The results obtained agree with those in Ref.2. The table on p.274 gives the values of optical constants for CaF_2, SrF_2 and BaF_2. SrF_2 and CaF_2 differ but little in their refractive indices. The refractive index of BaF_2 is somewhat higher. Monocrystals of all three fluorides possess small dispersion (last column in the table on p.274).

51-4-2-24/28

Optical Monocrystals of Strontium and Barium Fluorides.

There is 1 figure, 1 table and 3 references of which 1 is Soviet, 1 English and 1 American.

ASSOCIATION: State Optical Institute imeni S.I. Vavilov. (Gos. opticheskiy institut im. S.I. Vavilova.)

SUBMITTED: May 21, 1957.

1. Single crystals-Growth 2. Single crystals-Optical properties
3. Fluorite-Applications

Card 3/3

L 21240-66 EWT(m)/EWP(t) IJP(c) JD/JW
ACC NR: AP6003789 SOURCE CODE: UR/0181/66/008/001/0216/0219

AUTHORS: Chernevskaya, E. G.; Anan'yeva, G. V.

ORG: State Institute of Optics im. S. I. Vavilov (Gosudarstvennyy opticheskiy institut)

TITLE: On the structure of mixed crystals based on CaF_2, SrF_2, and BaF_2

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 216-219

TOPIC TAGS: calcium fluoride, strontium compound, barium compound, crystal lattice structure, solid solution, alkali earth mineral, crystal lattice defect, mixed crystal

ABSTRACT: Inasmuch as earlier investigations of two-component systems based on CaF_2, SrF_2, and BaF_2 were limited to solid solutions in powdered form, the authors used crystals grown in vacuum high-temperature installations (I. V. Stepanov and P. P. Feofilov, Rost kristallov [Crystal Growth], p. 225, AN SSSR, 1957). The structure

Card 1/3

investigations were made with a type URS-50 x-ray installation. The results showed that the systems CaF_2-SrF_2 and SrF_2-BaF_2 form solid solutions with arbitrary component ratio, in which the lattice constant of the mixed crystals increasing linearly with the percentage composition. The lattice constants of these two crystals satisfy Vegard's law for all compositions. The CaF_2-BaF_2 system satisfies the additivity law for BaF_2 contents up to 2% and CaF_2 content up to 6 -- 8%. The number of particles per unit cell of the lattice was found to be approximately 12 for the mixed crystals CaF_2-SrF_2, SrF_2-BaF_2 and for the single-component crystals CaF_2, SrF_2, and BaF_2. The deviation of this number from 12 did not depend on the composition of the crystals and was approximately the same for all types of crystals. It is also concluded that the atoms of the different alkaline earth metals in the solid solutions CaF_2-SrF_2 and SrF_2-BaF_2 can participate in the formation of the lattice defects to an equal degree, and the number of the 'defect' particles of each component is determined by its percentage

content in the crystal. The authors thank N. A. Afans'yeva and M. V. Zasolotskaya for carrying out many of the measurements. Orig. art. has: 2 figures, 2 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 05Jan65/ ORIG REF: 005/ OTH REF: 008

Card 3/3

CHERNEVSKAYA, E.G.

Transmittance of CaF_2, SrF_2, and BaF_2 crystals and the effect of hard radiation on them. Opt.i spektr. 11 no.4:513-517 O '61. (MIRA 14:10)

(Metal crystals--Optical properties)
(Materials, Effect of radiation on)

S/051/61/010/005/002/006
E032/E114

6.3200

AUTHOR: Chernevskaya, E.G.

TITLE: Transmittance of Mixed CaF_2-SrF_2 and SrF_2-BaF_2 Monocrystals and the Effect of γ-Radiation Upon Them

PERIODICAL: Optika i spektroskopiya, 1961, Vol.10, No.5, pp. 640-643

TEXT: The present author has grown CaF_2-SrF_2 and SrF_2-BaF_2 monocrystals using the high-temperature vacuum apparatus developed by I.V. Stepanov (Ref.1). The crystals were grown from synthetic high-purity preparations of CaF_2, SrF_2 and BaF_2 which were produced by the method described by I.V. Stepanov and I.A. Sinyukova (Ref.2). The CaF_2-SrF_2 and SrF_2-BaF_2 specimens were in the form of transparent colorless monocrystals giving rise to a much lower light scattering than the original crystals. Fig.1 shows the transmission curves for crystals grown in a vacuum of about 10^{-3} mm Hg in the ultraviolet region. The curve designations are as follows: 1 - CaF_2 (90%) - SrF_2 (10%) (grown in a vacuum of 10^{-4} mm Hg); 2 - CaF_2 (90%) - SrF_2 (10%); 3 - CaF_2 (60%) - SrF_2 (40%); 4 - CaF_2 (10%) - SrF_2 (90%).

S/051/61/010/005/002/006
E032/E114

Transmittance of Mixed CaF_2-SrF_2 and SrF_2-BaF_2 Monocrystals and the Effect of γ-Radiation Upon Them

Fig.2 shows the transmission curves in the infrared. Curve designations are as follows: 1 - CaF_2; 2 - CaF_2 (70%) - SrF_2 (30%); 3 - CaF_2 (50%) - SrF_2 (50%); 4 - CaF_2 (30%) - SrF_2 (70%); 5 - SrF_2; 6 - SrF_2 (70%) - BaF_2 (30%); 7 - SrF_2 (50%) - BaF_2 (50%); 8 - SrF_2 (30%) - BaF_2 (70%); 9 - BaF_2.
The transmittance of the crystals in the ultraviolet region is very dependent on the pressure in the crystal-growing apparatus as can be seen from Fig.1, in which Curve 1 was obtained at 10^{-4} mm Hg and the remaining curves at 10^{-3} mm Hg. In the infrared region the transmittance does not depend on the pressure. The dependence of the transmission edge in this region on the composition of the crystals can be described by the simple additive formula

$$\nu = m\nu_1 + (1 - m)\nu_2,$$

where m is the concentration of the first component and ν_1 and ν_2 are the transmission edges of the original single-component crystals which were assumed to be equal to 1075 cm^{-1}

S/051/61/010/005/002/006
E032/E114

Transmittance of Mixed CaF_2-SrF_2 and SrF_2-BaF_2 Monocrystals and the Effect of γ-Radiation Upon Them

for CaF_2 and 909 cm^{-1} for SrF_2. The mixed crystals were also exposed to γ-rays and it was found that they are more stable against gamma irradiation than the synthetic fluorite crystals. Typical results are shown in Figs. 3-5. Fig.3 shows the absorption spectra of single-component and mixed crystals after γ-ray irradiation at 75,000 r. The curve designations are as follows: 1 - CaF_2; 2 - CaF_2 (70%) - SrF_2 (30%); 3 - CaF_2 (50%) - SrF_2 (50%); 4 - CaF_2 (30%) - SrF_2 (70%); 5 - SrF_2. Fig.4 shows the absorption spectra of CaF_2 (Curves 1 and 2) and CaF_2 (99%) - SrF_2 (1%) (Curves 3 and 4) after γ-ray irradiation. The γ-ray dose (in roentgens) was: 1 - 5.8×10^{-5}; 2 - $4\text{-}7.5 \times 10^{-4}$; 3 - 3.5×10^{-7}. Fig.5 shows the absorption spectra of mixed crystals with symmetric compositions after gamma irradiation at 75,000 r. Curve designations are as follows: 1 - SrF_2 (20%) - BaF_2 (80%); 2 - SrF_2 (80%) - BaF_2 (20%). The coloration of mixed crystals which appears after γ-ray irradiation was found to reach a saturation within a short time.

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S/051/61/010/005/002/006
E032/E114

Transmittance of Mixed CaF_2-SrF_2 and SrF_2-BaF_2 Monocrystals and the Effect of γ-radiation Upon Them

Prolonged γ-ray irradiation after the saturation had been reached did not affect the absorption bands to any great extent. The color centers of mixed crystals which are formed on irradiation are not stable. The coloration disappears when the crystals are heated in air to about 300°. If the crystals are then irradiated again, the original color returns. The crystals were grown under the direction of the late I.V. Stepanov. Acknowledgements are expressed to P.P. Feofilov who suggested this topic and to A.I. Stozharov who directed this work.
There are 5 figures and 5 references: 4 Soviet and 1 English.

SUBMITTED: April 11, 1960

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S/051/61/010/005/002/006
E032/E114

Transmittance of Mixed CaF_2-SrF_2....

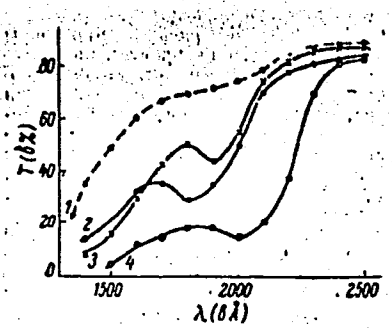

Fig. 1

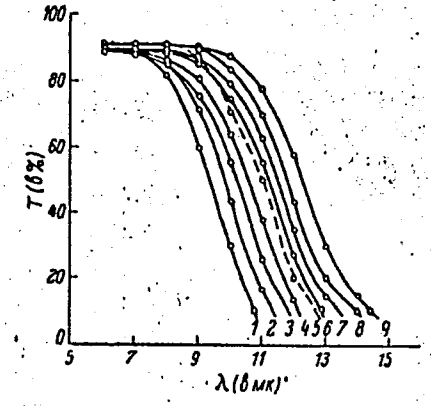

Fig. 2

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20873
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E032/E114

Transmittance of Mixed CaF_2-SrF_2 ....

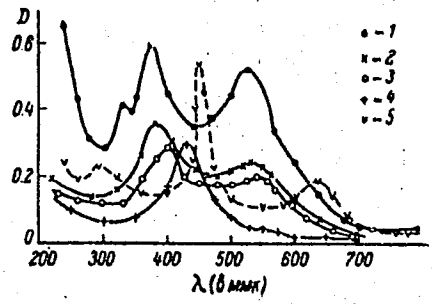

Fig.3

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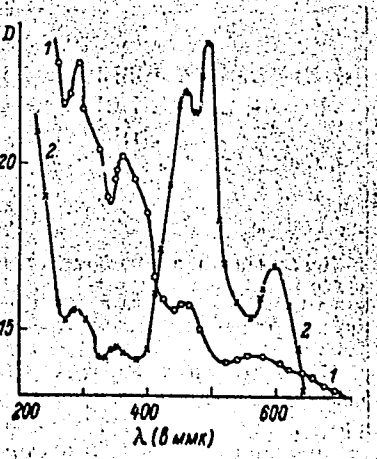

Fig. 4

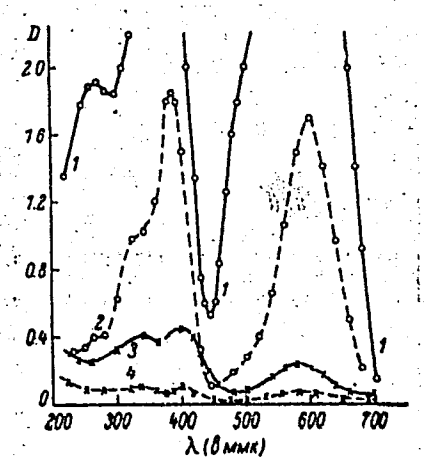

Fig. 5

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L 10089-67 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6023369 SOURCE CODE: UR/0237/66/000/007/0051/0052

33

AUTHOR: Chornovskaya, E. G.

ORG: none

TITLE: Hardness of mixed single crystals of CaF_2 type

SOURCE: Optiko-mekhanicheskaya promyshlennost', no. 7, 1966, 51-52

TOPIC TAGS: microhardening, solid solution, mixed crystal, fluorite, light scattering, crystal lattice structure

ABSTRACT: The author investigated the hardness of two-component single crystals CaF_2-SrF_2 and SrF_2-BaF_2, with an aim at detecting the presence of solid solutions in these crystals. The microhardness of the two-component system as well as of the crystals CaF_2, SrF_2, and BaF_2 was determined with a PMT-3 instrument in the direction perpendicular to the cleavage plane (111). The results show that the hardness of the mixed crystals was higher than that of the initial crystals and that, unlike other properties, the hardness was not additive. The increase in hardness of the SrF_2-BaF_2 system was larger than that of the CaF_2-SrF_2 system. In addition, several CaF_2-BaF_2 crystals, containing up to 2 -- 6% of the second

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ACC NR: AP6023369

component, were investigated and the results compared with a system containing 40.6% CaF_2 and 59.4% BaF_2. The results show that components with SrF_2 form solid solutions, whereas the CaF_2 and BaF_2 do not form any solid solutions. The microhardness of the crystals with small content of the second component barely differed from that of the single-component crystals. The microhardness of the mixture with nearly equal contents was intermediate between the microhardness of the individual components, thus indicating that this alloy is a mechanical mixture and that no solid solutions are formed. Aging for three years did not change the hardness. Aging for seven years did not change the scattering of the light thus indicating that the solid solutions of the system CaF_2-SrF_2 and SrF_2-BaF_2 are stable. It is proposed that the hardening of the mixed single crystals of the rare-earth fluorides is due to microdistortions of the crystal lattice occurring during the formation of the solid solutions, although further research is still necessary for definite conclusions. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 01Jul65/ ORIG REF: 004/ OTH REF: 001

Card 2/2 bjp

KOROVITSKIY, L.K., prof.; GRIGORASHENKO, A.Ye., dotsent; CHERNEVSKAYA, L.V.

Distribution of and ways of becoming infected with toxoplasmosis in the southern Ukraine. Vrach. delo no.5:112-116 My '62.
(MIRA 15:6)

1. Odesskiy institut epidemiologii i mikrobiologii i klinika infektsionnykh boleney Odesskogo meditsinskogo instituta.
(UKRAINE—TOXOPLASMOSIS)

GRIGORACHENKO, A.Ye.; STANKOV, A.G.; CHERNEVSKAYA, L.V.

Data on a study of the epidemiology of some forms of glandular toxoplasmosis. Vrach. delo no.6:93-96 Je '63. (MIRA 16:9)

1. Odesskiy institut epidemiologii i mikrobiologgi.
(TOXOPLASMOSIS) (TONSILS—DISEASES)

CHERNEVSKAYA, L.V.

Materials on the study of the epidemiology of toxoplasmosis. Trudy TSIU 68:70-72 '64. (MIRA 18:5)

S/138/62/000/010/008/008
A051/A126

AUTHORS: Levitin, I. A., Chernevskaya, N. N.

TITLE: The application of СКМС -30 АРКМ -15 (SKMS-30 ARKM-15) rubber in tire mixes

PERIODICAL: Kauchuk i rezina, no. 10, 1962, 53 - 56

TEXT: A study was made of the properties of regulated SKMS-30 ARKM-15 rubber, containing ПН-6 (PN-6) (14 - 17%) petroleum; and when being produced using a mixture of disproportionated colophony and fatty acid soaps as emulsifier. Its properties were compared to those of SKS-30 ARM-15, produced with a nekal emulsifier. Comparisons were also made with europrene 1500 and 1712, at a ratio of 1:1. It was found that the SKMS-30 ARM-15 rubber has a higher rate of vulcanization than the SKS-30 ARM-15 and the SKMS-30 ARM-15 mix, when mixed with the europrene 1500 and 1712. Tread and casing vulcanizate mixes of SKMS-30 ARKM-15 have higher moduli, tensility, elasticity at 100°C, wear resistance, strength of adhesion, but a lower tear resistance than vulcanizates of the same mixes based on SKMS-30 and SKS-30 ARM-15. Tread mixes based on SKMS-30, ARKM-15,

Card 1/2

The application of...

SKS-30 and ARM-15 with SKMS-30 ARM-15, at the same Defo hardness, have about equal Carriere plasticity and the same flow duration on a press plastomer. The tread SRMS-30 ARKM-15 mixtures have a higher elasticity recovery and a somewhat higher tendency to scorching. The SKMS-30 ARKM tread rubbers were found to have a low crack-growth resistance. The physico-mechanical properties of the tread and casing SKMS-30 ARKM-15 rubber are equivalent to the europrene 1500 and 1712 (1:1) combination. When preparing tread mixes based on 100% butadiene-styrene rubber, it is recommended using SKMS-30 ARKM rubber of the first group, i.e., with a Defo hardness of 400 - 600 g, as opposed to the second group with a Defo hardness of 600 - 750 g. The recommended rubber ensures satisfactory technological properties of the mixes and sufficiently high physico-mechanical properties of the vulcanizates. There are 3 tables and 1 figure.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov)

BULGARIA

CHERNEVSKI, Nikola, Dr, ODVS [Abbreviation not identified,] Kolarovgrad.

"Staphylococcal Food Poisoning from Cottage Cheese."

Sofia, Veterinarna Sbirka, Vol 60, No 5, 1963; pp 24.

Abstract: Case report of food poisoning in staff member of city veterinary food inspection service who had to be hospitalized 4 hours after carrying out a "taste inspection" of cheese samples from 20 barrels in 1960. He was quite ill but recovered rapidly and could be discharged after 4 days. Enterotoxin-producing hemolytic Staphylococcus aureus was isolated from the cheese which appeared of excellent quality to all gross sensory inspection.

1/1

CHERNEVSKIY, M. [Charniauski, M.]

Now they are together. Rab. i sial. 35 no.7:9 Jl '59.
(MIRA 12:12)

(World War, 1939-1945--Children)

AKULOV, V.V., kand.geogr.nauk; BABUSHKIN, L.N., doktor geogr.nauk; ORESHINA, L.M.; SKVORTSOV, Yu.A., doktor geol.-mineral.nauk; PETROV, N.P., kand.geol.-mineral.nauk; CHERNEVSKIY, N.N.; KRYLOV, M.M., doktor geol.-mineral.nauk; KHASANOV, A.S.; BEDER, B.A., kand.geol.-mineral.nauk; KIMBERG, N.V., kand. sel'skokhoz.nauk; SUCHKOV, S.P.; GLAGOLEVA, A.F.; PERVUSHINA-GROSHEVA, A.N.; VERNIK, R.S., kand.biol.nauk; MOMOTOV, I.F.; GRANITOV, I.I., kand.biol.nauk; SALIKHBAYEV, Kh.S., kand. biolog.nauk; STEPANOVA, N.A., kand.biolog.nauk; YAKHONTOV, V.V.; DAVLETSHINA, A.G., kand.biolog.nauk; MURATBEKOV, Ya.M., kand. biolog.nauk; [deceased]; KUKLINA, T.Ye.; KORZHENEVSKIY, N.L., red. [deceased]; GORBUNOV, B.V., kand.geologo-mineral.nauk, red.; DONSKOY, P.V., red.; YAKOVENKO, Ye.P., red.izd-va; GOR'KOVAYA, Z.P., tekhn.red.

[Materials on the productive forces of Uzbekistan] Materialy po proizvoditel'nym silam Uzbekistana. Tashkent. No.10. [Natural conditions and resources of the lower reaches of Amu-Darya; Kara-Kalpak A.S.S.R. and Khorezm Province of the Uzbek S.S.R.] Prirodnye usloviia i resursy nizov'ev Amu-Dar'i; Kara-Kalpakskaia ASSR i Khorezmskaia oblast' UzSSR. 1959. 351 p. (MIRA 13:5)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Sovet po izucheniyu proizvoditel'nykh sil. 2. Chleny-korrespondenty AN UzSSR (for Yakhontov, Korzhenevskiy).
(Amu-Darya Valley--Physical geography)

PETROV, N.P.; KURANOV, I.V.; CHERNEVSKIY, N.N.; ABDULLAKHODZHAYEV, A.A.

Ilsemannite from brown coal and kaolins in Uzbekistan. Dokl. AN Uz.SSR no.1:17-20 '59. (MIRA 12:4)

1. Institut geologii AN UzSSR. Predstavleno akademikom AN UzSSR A.S.Uklonskim.
(Uzbekistan--Ilsemannite)

3(4)

AUTHOR: Chernevskiy, O. V. SOV/6-59-8-6/27

TITLE: On the Use of the Eyepiece Shutter
(O primenenii okulyarnogo zatvora)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 8, pp 31-33 (USSR)

ABSTRACT: The results of the longitude determination by means of the eyepiece shutter developed by A. N. Kuznetsov (Ref 1) are given in the present article. According to this process the longitude at the 41st point of the primary triangulation (at a latitude of approximately 50°) were determined. The astronomers Ye. V. Yakovlev (1952) and O. V. Chernevskiy (1953) used the same apparatus, while O. V. Chernevskiy in 1954 and 1955 used for his observations another apparatus which, however, carried the same eyepiece attachment as the apparatus used in 1952-53. The table shows the main observation results obtained both by the two above-mentioned astronomers and by S. S. Rakhubovskiy in 1952. The essential disadvantage of observations with a shutter is that the eyes tire very much, since in the case of each star approximately 30 readings at 3-second intervals are necessary.

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Without detriment to the accuracy, the readings may be reduced to half that number. A further drawback in using the eyepiece shutter is the necessity of a chronometer with a three-second interrupter. This latter disadvantage can, however, be eliminated by using the apparatus developed by P. S. Popov. Furthermore, a delay in the action of the apparatus was found, which necessitates a detailed investigation of the cause of this instance. There are 1 table and 2 Soviet references.

CHERNEVSKIY, O.V.

Effect of errors in star coordinates on longitude determination.
Geod. i kart. no.1:16-22 Ja '61. (MIRA 14:9)
(Astronomy, Spherical and practical)

CHERNEVSKIY, Yu.

Livestock transportation in seagoing vessels. Mor. flot 25 no.11:11-12 N '65. (MIRA 18:11)

1. Starshiy inzh.-dispetcher Upravleniya sukhogruznogo flota Chernomorskogo parokhodstva.